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Prepared by

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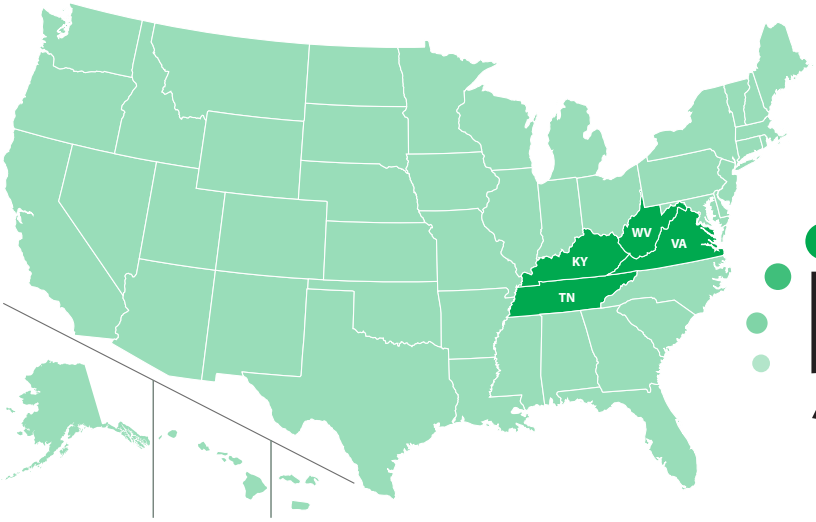

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This report is available on the regional educational laboratory web site at http://ies.ed.gov/ncee/edlabs.

Summary

Assessing the likelihood that Virginia schools will meet the proficiency goals of the No Child Left Behind Act

This report investigates progress in Virginia public schools in satisfying the requirement of the No Child Left Behind Act of 2001 that every student be proficient in reading and math by 2014. It develops a variable change model that uses observed baseline proficiency and proficiency trends at individual schools to forecast gains for six subgroups in elementary, middle, and high schools.

The study finds that there were substantial increases in proficiency overall and especially large increases for schools and subgroups that had low proficiency levels in 2002. The forecasts indicate that there will continue to be substantial proficiency increases in the near term, but that with few exceptions proficiency will plateau at levels well below 100 percent before 2014.

The report looks at proficiency levels for students overall and in six subgroups in elementary, middle, and high schools in reading and math in more than 1,600 Virginia schools in the first four years after passage of the No Child Left Behind Act. These observed trends are then used to forecast reading and math proficiency levels for 2006 through 2014.

The forecast of proficiency levels relies on a variable change model rather than a constant change model. The model is based on the assumption that as a school reaches higher proficiency levels, its proficiency will grow at the average annual 2002–05 pace achieved by other schools of the same type that attained that higher base proficiency level in 2002. Estimating the relationship between the change in proficiency between 2002 and 2005 and the proficiency level attained in 2002 provides a realistic answer to the central analytic question: Are rates of improvement likely to rise, fall, or remain constant relative to current rates?

The research yielded several major findings:

- Virginia schools increased their proficiency levels between 2002 and 2005. In 2002, in an average school, 74.3 percent of students tested proficient in reading. On average, a school's reading proficiency increased by 6.9 percentage points over the next three years (7.0 for elementary schools, 7.6 for middle schools, and 5.9 for high schools). In an average school math proficiency increased by 9.8 percentage points (9.2 for elementary schools, 9.0 for middle schools, and 13.0 for high schools).

- There was substantial variation in reading proficiency change across schools of each type between 2002 and 2005. Seventy percent of elementary schools had changes

of between –3.3 and +17.3 percentage points, 70 percent of middle schools had changes of between –1.2 and +16.4 percentage points, and 70 percent of high schools had changes of between –3.1 and +14.9 percentage points. Variation in math proficiency was also large. Approximately 70 percent of elementary, middle, and high schools had changes of between –2.0 and +20.4 percentage points.

- Improvements in proficiency are likely to continue but at a reduced pace. For example, in elementary schools African American reading proficiency averaged between 40 and 50 percent in 2002, and proficiency increased by about 20 percentage points over the next three years. In an average school African American proficiency is forecast to increase by about 10 percentage points between 2005 and 2007 and by about 5 percentage points between 2008 and 2010.

- Actual and forecast increases in proficiency were greatest for schools and subgroups that attained low levels in 2002. For example, in an average high school reading proficiency for students with disabilities was 46 percent in 2002 and increased by 14 percentage points by 2005. In contrast, in an average high school reading proficiency levels for students without disabilities averaged 86 percent in 2002 but increased by only 5 percentage points by 2005.

- It becomes increasingly difficult to boost proficiency as proficiency levels rise. For example, subgroups in schools with 80 percent or higher average proficiency levels in 2002 exhibited declines over the next three years. Annual changes in proficiency declined by about 2.2 percentage points for every 10 percentage point increase in proficiency, and this trend is likely to continue into the future.

These findings lead to three major conclusions:

- The actual and forecast performance of Virginia public schools is in keeping with the intent of the No Child Left Behind Act to substantially increase proficiency levels, especially for schools and subgroups with low initial levels.

- Despite the strong observed and forecasted gains, it is unlikely that most schools will show consistent gains beyond 95 percent proficiency levels for whites; beyond 80 percent for African Americans, Hispanics, students with limited English proficiency, and economically disadvantaged students; and beyond 70 percent for students with disabilities.

- Close to 100 percent of Virginia's schools will not meet the status standard in 2014 as it rises from 69 percent in 2006 to 100 percent in 2014. However, it is difficult to determine how not meeting the status standard translates into schools being labeled in need of improvement. This is because the alternative "safe harbor" standard (which in Virginia is based on the year to year increase in the percentage of students testing proficient) could save as many as half of the schools from becoming identified as needing improvement.

The research also reached four methodological conclusions related to forecasting proficiency:

- The models typically used to forecast changes in proficiency are based on the untenable assumption that a school's observed increase over a base period will continue unchanged into the future. These models also do not accurately describe the range of outcomes across schools, but instead focus on the performance of schools with average characteristics.

- In forecasting proficiency it is essential to model the slowdown in a school's proficiency change as the school's proficiency level rises, to describe the range of changes across schools with similar proficiency levels, and to take into account the statistical error of the estimates.

- A school's year-to-year fluctuations in proficiency level can have a major effect on meeting performance standards, because those fluctuations are frequently large enough to allow the school to meet safe harbor standards. Modeling the meeting of safe harbor standards was outside the scope of this study but is essential for predicting which schools will be labeled as needing improvement.

- Year-to-year fluctuations in proficiency levels of individual Virginia schools were so large that it was difficult to discern long-term trends in data covering four years. This finding has important implications for developing performance measures and standards that accurately reflect progress.

September 2007

TABLE OF CONTENTS

Summary iii

Overview 1
- 2002 reading and math proficiency levels and 2002–05 trends by school type 4
- 2002 reading proficiency levels and 2002–05 trends by subgroup and school type 4
- Projected reading proficiency by subgroup and school type 5
- Projected steady-state math proficiency by subgroup and school type 5

What were proficiency levels in 2002 and how did they change between 2002 and 2005? 6
- Reading and math proficiency by school type 6
- Reading proficiency by subgroup 7

Forecasting reading and math proficiency 9
- Why constant growth models are inappropriate: the change in reading proficiency between 2002 and 2005 by initial proficiency level and school type 10
- Why a variable change model is more appropriate: estimating the relationship between reading proficiency level and growth 11
- Estimation of steady-state proficiency levels and time-paths for reaching those levels 13
- Steady-state reading proficiency levels by subgroup and school type 15
- Steady-state math proficiency levels by subgroup and school type 16
- Past performance as a guide to future performance 17

Conclusions about proficiency levels and methodology 18
- Findings about proficiency levels and actual and predicted changes in proficiency levels 18
- Advantages and implications of using the variable change model for forecasting proficiency improvements 19
- Additional uses for the model 20

Appendix A Variables in database used to estimate proficiency change-level models 22

Appendix B Regressions used to estimate proficiency change-level relationships and steady-state levels, by school type and subgroup 23

Appendix C Past performance as a guide to future performance 29

Appendix D Piecewise linear regressions used to estimate reading proficiency change-level relationships and steady-state levels, by school type and subgroup 38

Notes 48

References 51

Boxes

1 The No Child Left Behind Act of 2001 and its application in Virginia 2

2 The database 3

3 Distribution of students in the six subgroups in the Virginia schools sample 7

Figures

1 Average elementary, middle, and high school reading and math proficiency levels for 2002 and proficiency gains for 2002–05 6

2 Average elementary, middle, and high school reading proficiency levels in 2002 by subgroup 8

3 Percentage point changes in reading proficiency by subgroup and school type, 2002 to 2005 9

4 Average annual change in reading proficiency from 2002 to 2005 for schools with different 2002 proficiency levels, by school type 11

5 Forecasts of reading proficiency from 2002 to 2014 using the variable change model for schools starting at different proficiency levels in 2002 14

6 Steady-state reading proficiency levels by subgroup and school type 15

7 Upper and lower bounds of the confidence interval for steady-state reading proficiency levels for whites, African Americans, Hispanics, and all students, by school type 16

8 Upper and lower bounds of the confidence interval for the steady-state reading proficiency levels for limited English proficiency students, students with disabilities, and economically disadvantaged students subgroups, by school type 16

9 Steady-state math proficiency levels by subgroup and school type 17

Tables

B1 Regressions used to estimate reading proficiency change-level relationships and steady-state levels 23

B2 Regressions used to estimate math proficiency change-level relationships and steady-state level 26

C1 Comparisons between the basic linear model and the piecewise linear model for elementary schools 30

C2 Average difference in steady-state level estimates between the basic model and the piecewise model for subgroups by school type 30

C3 The effect of selected variables on proficiency growth, 2002–05 31

C4 The effect of different specifications on the explanatory power of change regressions and on the estimated steady-state levels 33

C5 Number and percentages of schools with no data for each subgroup and number with 50 or more test-takers each year during 2002–05, by subgroup 36

D1 Elementary schools 38

D2 Middle schools 42

D3 High schools 45